CLAIMS

1. A vinyl polymer having at least one terminal group of the general formula (1) per molecule;

$-OC(O)C(R)=CH_2$ (1)

wherein R represents hydrogen or an organic group containing 1 to 20 carbon atoms.

2. The vinyl polymer according to Claim 1 wherein R is hydrogen or a hydrocarbon group of 1 to 20 carbon atoms.

3. The vinyl polymer according to Claim 1 ~~or 2~~ wherein R is hydrogen or a methyl group.

4. The vinyl polymer according to ~~any of~~ Claim 1 ~~to 3~~, which is a (meth)acrylic polymer.

5. The vinyl polymer according to Claim 4, which is an acrylic ester polymer.

6. The vinyl polymer according to ~~any of Claims 1 to~~ Claim 1 which is a styrenic polymer.

7. The vinyl polymer according to ~~any of Claims 1~~ to Claim 1 which is obtainable by living radical polymerization.

8. The vinyl polymer according to Claim 7 wherein said living radical polymerization is atom transfer radical polymerization.

9. The vinyl polymer according to Claim 8 wherein the transition metal complex catalyst for said

atom transfer radical polymerization is selected from among complexes of copper, nickel, ruthenium or iron.

10. The vinyl polymer according to Claim 9 wherein said transition metal complex is a copper complex.

11. The vinyl polymer according to ~~any of Claims 1 to~~ Claim 1 which is obtainable by the polymerization of a vinyl monomer using a chain transfer agent.

12. The vinyl polymer according to ~~any of Claims 1 to~~ Claim 1 which is obtainable by reacting an olefin polymer having a terminal structure represented by the general formula (2) with a compound represented by the general formula (3):

$-CR^1R^2X$ (2)

wherein R^1 and R^2 each represents a group attached to the ethylenically unsaturated group of the vinyl monomer; X represents chloro, bromo or iodo,

$M^+{}^-OC(O)C(R)=CH_2$ (3)

wherein R represents hydrogen or an organic group containing 1 to 20 carbon atoms; M^+ represents an alkali metal or quaternary ammonium ion.

13. The vinyl polymer according to ~~any of Claims 1 to~~ Claim 1 which is obtainable by reacting a hydroxy-terminated vinyl polymer with a compound of the general formula (4):

$XC(O)C(R)=CH_2$ (4)

wherein R represents halogen or an organic group containing 1 to 20 carbon atoms; X represents chloro, bromo, or a hydroxyl group.

14. The vinyl polymer according to ~~any of Claims 1 to 11~~ claim 1 which is obtainable by reacting a hydroxy-terminated vinyl polymer with a diisocyanate compound and further causing the residual isocyanate group to react with a compound of the general formula (5):

$HO-R'-OC(O)C(R)=CH_2$ (5)

wherein R represents hydrogen or an organic group containing 1 to 20 carbon atoms; R' represents a bivalent organic group containing 2 to 20 carbon atoms.

15. The vinyl polymer according to ~~any of Claims 12 to 14~~ claim 1 wherein R is hydrogen or a hydrocarbon group of 1 to 20 carbon atoms.

16. The vinyl polymer according to Claim 15 wherein R is hydrogen or a methyl group.

17. The vinyl polymer according to ~~any of Claims 1 to 16~~ claim 1 the number average molecular weight of which is not less than 3000.

18. The vinyl polymer according to ~~any of Claims 1 to 17~~ claim 1 wherein the ratio of weight average molecular weight (Mw) to number average molecular weight (Mn) as determined by gel permeation chromatography [Mw/Mn] is less than 1.8.

19. A curable composition comprising the vinyl polymer according to ~~any of Claims 1 to 18~~ claim 1.

20. The curable composition according to Claim 19 comprising a radical-polymerizable group-containing monomer

and/or oligomer.

21. The curable composition according to Claim 19 comprising an anionic-polymerizable group-containing monomer and/or oligomer.

22. The curable composition according to Claim 20 ~~or 21~~ comprising a (meth)acryloyl group-containing monomer and/or oligomer.

23. The curable composition according to Claim 22 comprising a monomer and/or oligomer containing a (meth)acryloyl group and having a number average molecular weight of not more than 2000.

24. The curable composition according to ~~any of Claims 19 to 23~~ Claim 19 which is curable by means of actinic ray.

25. The curable composition according to Claim 24 comprising a photopolymerization initiator.

26. The curable composition according to Claim 25 wherein said photopolymerization initiator is a photoradical initiator.

27. The curable composition according to Claim 25 wherein said photopolymerization initiator is a photoanion initiator.

28. The curable composition according to ~~any of Claims 19 to 23~~ Claim 19 which is curable by heating.

29. The curable composition according to Claim 28

wherein a thermopolymerization initiator is selected from the group consisting of an azo initiator, a peroxide, a persulfate and a redox initiator.

30. An aqueous emulsion comprising the vinyl polymer according to ~~any of Claims 1 to 18~~ Claim 1.

31. An aqueous emulsion comprising the curable composition according to ~~any of Claims 19 to 29~~ Claim 19.

32. A method of protecting a substrate which comprises covering the substrate with the aqueous emulsion according to Claim 31 and curing the emulsion in situ.

33. A pressure sensitive adhesive composition comprising the curable composition according to any of Claims 19 to 29 or the aqueous emulsion according to Claim 31.

34. A pressure sensitive adhesive obtainable from the pressure sensitive adhesive composition according to Claim 33.